

Basic Plan - Appendix IV

ACRONYMS & DEFINITIONS GLOSSARY

Advisory:	Official information issued by tropical cyclone warning centers describing all tropical cyclone watches and warnings in effect along with details concerning tropical cyclone locations, intensity and movement, and precautions that should be taken. Advisories are also issued to describe: (a) tropical cyclones prior to issuance of watches and warnings and (b) subtropical cyclones .
Affected Swath/List:	Areas that a storm center could cross, given average forecast error.
ARC:	American Red Cross
ARC Shelter:	A traditional American Red Cross shelter, either in a coastal locality or further inland, for people displaced by a major hurricane.
Average Error:	Geographic reference to where a storm could track during the 72 hour forecast period. National Hurricane Center assigns an approximate 60% confidence that the storm will track within the swath.
Behavioral Analysis:	A survey-based study conducted to determine perceptions and expected response of populations threatened by various hurricane events with regard to evacuation decisions, probable evacuation destinations, public shelter use and utilization of available vehicles.
Best Track:	A representation of a tropical cyclones location and intensity over its lifetime. The best track contains the cyclone's latitude, longitude, maximum sustained surface winds, and minimum sea-level pressure at 6-hourly intervals. Best track positions and intensities, which are based on a post-storm assessment of all available data, may differ from values contained in storm advisories. They also generally will not reflect the erratic motion implied by connecting individual center fix positions.
Bulletin:	A public-oriented message released from the National Hurricane Center at a time other than when scheduled advisories are required.
Center / Vortex:	The location of the center of a tropical or subtropical cyclone obtained by reconnaissance aircraft penetration, satellite, radar, or synoptic data.
Clearance Times:	The time required to clear the roadways of all evacuating vehicles – before the arrival of 34-knot winds, times expressed in hours.
Coastal Flood Statement:	A public information message released by a regional and/or local Weather Service facility outlining/recapping/amplifying, in plain text, a given coastal flooding situation.
Cyclone:	An atmospheric closed circulation rotating counter-clockwise in the Northern Hemisphere and clockwise in the Southern Hemisphere.

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Decision Arc:	Evacuation clearance times converted to distance by accounting for the forward speed of the hurricane.
Decision Arc Method:	Assists officials in timing of evacuation decisions at which the radius of sustained 34-knot winds intersects the Decision Arc/Point.
DHS:	Department of Homeland Security
Direct Hit:	A close approach of a tropical cyclone to a particular location. For locations on the left-hand side of a tropical cyclones track (<i>looking in the direction of motion</i>), a direct hit occurs when the cyclone passes to within a distance equal to the cyclone's radius of maximum wind . For locations on the right-hand side of the track, a direct hit occurs when the cyclone passes to within a distance equal to twice the radius of maximum wind.
Drill:	An activity that tests, develops, or maintains skills in a single emergency response procedure, usually involving hands-on activity, activation of emergency communications, and use of equipment that would be used in a real emergency.
EDT:	Eastern Daylight Time is the time zone of the Western Hemisphere falls mostly along the east coast of North America and the west coast of South America. Its time offset is -5 hrs Zulu/GMT or UC-5.
EDST:	Eastern Daylight Savings Time is the artificial time zone achieved by adjusting clocks by -1 hour so that afternoons have more daylight and mornings have less. Its time offset is -4 hrs Zulu/GMT/UT.
EST:	Eastern Standard Time is the time zone for the United States east coast. Specifically; it is Eastern Standard Time when observing standard time (<i>winter</i>). Its time offset is -5 hrs Zulu/GMT/UT.
EOC:	Emergency Operations Center
ETIS:	Evacuation Traffic Information System
Evacuation:	Populations asked or ordered to leave an area (<i>their residence and/or business</i>) to seek a safer location from a hazard threat.
Evacuation Route:	Road or highway designated by the Virginia Department of Transportation as a primary route for motorists evacuating from the threat of a hurricane. The routes are marked with signs that indicate “Hurricane Evacuation Route”.
Evacuation Timing:	Appropriate start and end times of an evacuation based on storm and traffic conditions.
Evacuation Window:	The time between the release of an evacuation advisory and when areas to be evacuated must be cleared.

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Evacuation Zone:	A specified area designated by local officials, and based on surge inundation risk and mobile home populations.
Exercise:	An activity designed to promote emergency preparedness; test or evaluate emergency operations, policies, plans, procedures, or facilities; train personnel in emergency duties; and demonstrate operational capability.
Extra Tropical Cyclone:	A cyclone of any intensity for which the primary energy source is from the temperature contrast between warm and cold air masses.
Eye:	The roughly circular area of comparatively light winds that encompasses the center of a severe tropical cyclone . The eye is either completely or partially surrounded by the eye wall cloud.
Eye Wall / Wall Cloud:	An organized band or ring of cumulonimbus clouds that surround the eye, or light-wind center of a tropical cyclone . Eye wall and wall cloud are used synonymously.
FEMA:	Federal Emergency Management Agency
FHWA:	Federal Highway Administration
FIRM:	Flood Insurance Rate Map
Gale Force Winds:	Sustained winds of 34 knots (<i>39 mph</i>) or higher.
Gale Warning:	A condition set and established by the National Weather Service for a geographic area, and message released, that gale force winds (<i>1-minute sustained 39-54 mph/34-47 kts</i>) are forecast to occur.
GIS:	Geographic Information System is a computer system used for storage, retrieval, mapping, and analysis of geographic and reference data.
GMT:	Greenwich Mean Time is the measure of time obtained from the rotation of the earth at the Greenwich Observatory in England. Also commonly referred to as Universal Time or ZULU time.
HAR:	Highway Advisory Radio
HES:	Hurricane Evacuation Study
Host Locality:	A county, city or town located along one or more designated evacuation routes that have agreed to provide public shelter for evacuation from coastal localities in the event of a hurricane.

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Hurricane:	An intense storm system with pronounced rotary circulation in which the maximum sustained surface wind (<i>using the U.S. 1-minute average</i>) is 64 kts (74 mph or 119 km/hr) or more.
Hurricane Advisory:	Official information issued by the National Hurricane Center, describing all tropical cyclone watches and warnings in effect along with details concerning tropical cyclone locations, intensity and movement, and precautions that should be taken. Issued at 0900Z, 1500Z, 2100Z, and 0300Z hours.
Hurricane Marine Advisory:	Marine interest/public official-oriented advisory made from the same models and runs as the public advisory. Contains detailed positional and wind velocity data, including movement and forecast positions.
Hazard Mitigation Plan:	A document that is adopted by state and local governments that contains the policies, programs, strategies, and action(s) necessary to protect property from damages caused by hurricanes.
Hurricane Local Statement:	Official information prepared by local National Weather Service offices in or near a threatened area giving specific details for its county/city warning area on (1) weather conditions, (2) evacuation decisions made by local officials, and (3) other precautions necessary to protect life and property.
Hurricane Preparedness Program:	Department of Homeland Security (<i>DHS</i>) / Federal Emergency Management Agency (<i>FEMA</i>)'s program to foster hurricane preparedness in coastal areas by providing financial and technical assistance to state and local officials in conducting hurricane evacuation studies.
Hurricane Shelter:	Facility designated by a locality for use as a shelter for people whose homes are threatened by storm surge flooding or whose mobile homes are subject to hurricane force winds. A shelter provides basic support services.
Hurricane Warning:	Official information issued by the National Hurricane Center announcing that hurricane conditions (<i>sustained winds of 74 mph or higher</i>) are <i>expected</i> somewhere within the specified coastal area. Because hurricane preparedness activities become difficult once winds reach tropical storm force, the hurricane warning is issued 36 hours in advance of the anticipated onset of tropical storm force winds.
Hurricane Watch:	Official information issued by the National Hurricane Center announcing that hurricane conditions (<i>sustained winds of 74 mph or higher</i>) are <i>possible</i> within the specified coastal area. Because hurricane preparedness activities become difficult once winds reach tropical storm force, the hurricane watch is issued 48 hours in advance of the anticipated onset of tropical storm force winds.
HURREVAC:	A restricted-use computer program funded by FEMA and USACE for government emergency managers to track hurricanes and assist in evacuation decision-making.

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Indirect Hit:	Generally refers to locations that do not experience a direct hit from a tropical cyclone , but do experience hurricane force winds (<i>either sustained or gusts</i>) or tides of at least 4 feet above normal.
Inland Wind Model:	Applies two parameter decay equation to the hurricane wind field at landfall to estimate the maximum sustained surface wind as a storm moves inland.
ITS:	Intelligent Transportation Systems utilize synergistic technologies and systems engineering concepts to develop and improve transportation systems.
Intermediate Advisory:	A scheduled advisory issued by the National Weather Service at 2 to 3 hour intervals between the four main daily advisories/marine advisories, commencing when watches or warnings have been issued associated with the subject storm. Once watches/warnings are in effect, 3-hour intervals are in effect; 2-hour intervals are issued once the storm center or hurricane eye is being “tracked” by land-based weather radar.
JIC:	A joint information center is a location where public information representatives of several agencies/localities are gathered to coordinate important information.
KTS:	A knot is one nautical mile per hour. (<i>A nautical mile = 1.15 statute miles.</i>). Conversions: sm = nm x 1.15; nm = 0.87 x sm; mph = 1.15 x kts; kts = mph x 0.87.
Landfall:	The intersection of the surface center of a tropical cyclone with a coastline. Because the strongest winds in a tropical cyclone are not located precisely at the center, it is possible for a cyclone's strongest winds to be experienced over land even if landfall does not occur. Similarly, it is possible for a tropical cyclone to make landfall and have its strongest winds remain over the water. Compare direct hit , indirect hit , and strike .
Latitude:	Surface measurement of the earth from the equator to the pole (<i>set = 90 degrees</i>); expressed in degrees, minutes, and seconds or degrees, minutes and tenths of minutes Handy measure on charts - one minute of latitude (<i>not longitude</i>) equals one nautical mile.
LIDAR:	“Light Detection and Ranging” technology used to determine land elevation.
Local Emergency Coordinator:	The individual at the local level of government who is assigned the primary responsibility for all matters pertaining to emergency management.
Local Statement:	A public information message released by a regional and/or local National Weather Service Forecast Office outlining/amplifying, in plain text, a given coastal flooding situation.

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Longitude:	Surface measurement of earth measured from Greenwich Meridian east and west for 180 degrees. Measurement is expressed in degrees, minutes and seconds or degrees, minutes, and tenths of minutes. Distance to degree conversion is a spherical variable and there is no easy conversion.
Major Hurricane:	A hurricane that is classified under the Saffir-Simpson Hurricane Wind Scale as Category 3 or higher. A Category 4 storm is generally considered the worst-case scenario for latitudes as far north as Virginia.
MEOW:	Maximum Envelope of Water stores the maximum water surface elevation in each SLOSH grid cell for all hurricane tracks given a specific direction, forward speed and storm intensity.
MEOW Affected List:	Listing of localities affected by the Decay Model MEOW.
Mitigation Measure:	Any action, structure, or program that reduces the risk or vulnerability of the hazard.
MLLW:	The average of the lower low water height of each tidal day observed over the National Tidal Datum Epoch.
MOMs:	Maximum of Maximums; represents the maximum water surface elevation for each SLOSH grid regardless of specific direction, forward speed and storm intensity.
NIMS:	National Incident Management System is the Department of Homeland Security (<i>DHS</i>) / Federal Emergency Management Agency (<i>FEMA</i>)'s strategy to implement comprehensive emergency management, which capitalizes on commonality of functions to be performed (<i>warning, communications, evacuation, sheltering, mass care, etc.</i>), regardless of the hazard, and brings a greater economy of effort to the emergency preparedness posture.
NAVD 88:	The North American Vertical Datum of 1988 is the vertical control datum established for vertical control surveying in the United States of America based upon the General Adjustment of the North American Datum of 1988.
NGVD 29:	National Geodetic Vertical Datum of 1929 is a system that was used by surveyors and engineers for most of the 20th Century. It has been the basis for relating ground and flood elevations, but it has been replaced by the more accurate NAVD 88.
NHC:	National Hurricane Center.
NWS:	National Weather Service.
Radius of Maximum Winds:	The distance from the center of a tropical cyclone to the location of the cyclone's maximum winds. In well-developed hurricanes , the radius of maximum winds is generally found at the inner edge of the eye wall .

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ROLR:	Refuge of Last Resort is a facility that may be identified by the locality (<i>at-risk or host</i>) that can provide temporary relief from severe weather. A refuge of last resort is not intended to be designated as a “shelter” by the locality and may not be able to provide basic services such as food, accommodations for sleeping, first aid or security. It should be considered only as a probable safe haven for evacuees who are unable to clear the area until the storm passes.
Risk Locality:	The 21 coastal localities (<i>cities, counties and town</i>) identified in the Virginia Hurricane Evacuation Study as subject to a storm surge in the event of a hurricane.
Saffir-Simpson Hurricane Wind Scale:	The Saffir-Simpson Hurricane Wind Scale is a 1 to 5 categorization based on hurricane's intensity at the indicated time. The scale provides examples of the type of damage and impacts associated with winds of the indicated intensity. A detailed description of the Saffir-Simpson Hurricane Wind Scale, which was revised in early 2010. (<i>See Appendix 2</i>)
SLOSH:	Sea, Lake and Overland Surges from Hurricanes is a computerized model run by the NHC to estimate storm surge heights and winds resulting from historical, hypothetical, or predicted hurricanes by taking into account; (1) <i>Pressure</i> (2) <i>Size</i> (3) <i>Forward speed</i> (4) <i>Track</i> (5) <i>Winds</i> . It serves as a storm surge prediction model used in basins that have irregular coastlines and contain large bays or estuaries.
Special Advisory:	A unscheduled advisory issued by the National Weather Service when, in the judgment of the Hurricane Center forecasters, a significant deviation from forecasted track/speed/intensity has occurred, resulting in change of timing, intensity, or areas affected such that the status of watches and warnings may be impacted.
Storm Scenario:	Groups of evacuation zones that will be threatened by the predicted storm surge from specific hurricane intensity categories.
Storm Surge:	An abnormal rise in sea level accompanying a tropical cyclone system (<i>hurricane or tropical storm</i>) or other intense storm, and whose height is the difference between the observed level of the sea surface and the level that would have occurred in the absence of the cyclone. Storm surge is usually estimated by subtracting the normal or astronomic high tide from the observed storm tide.
Storm Tide:	The actual level of sea water resulting from the astronomic tide combined with the storm surge .
Storm Warning:	A condition set and established by the National Weather Service when storm force winds (<i>sustained 55-73 mph/48-63 kts</i>) are forecast to occur.

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Subtropical Depression:	A subtropical cyclone in which the maximum sustained surface wind speed (using the U.S. 1-minute average) is 33 kts (38 mph) or less.
Subtropical Storm:	A subtropical cyclone in which the maximum sustained surface wind speed (using the U.S. 1-minute average) is 34 kts (39 mph) or more.
TOC:	Transportation Operations Center.
TPC:	Tropical Prediction Center.
Tornado:	A small mass of air that whirls rapidly about an almost vertical axis; made visible by clouds and by dust and debris sucked into the system.
Tornado Warning:	A condition set and established by the National Weather Service to warn an area that a tornado may be imminent. It can be issued after either a tornado or funnel cloud has already been spotted, or if there are radar indications that a tornado may be possible.
Tornado Watch:	A condition set and established by the National Weather Service when weather conditions are favorable for the development of severe thunderstorms that are capable of producing tornadoes.
Transportation Analysis:	A study to determine the time required to evacuate the threatened population under a variety of hurricane conditions and to evaluate traffic control measures.
Tropical Cyclone:	A warm-core non-frontal synoptic-scale cyclone, originating over tropical or subtropical waters, with organized deep convection and a closed surface wind circulation about a well-defined center . Once formed, a tropical cyclone is maintained by the extraction of heat energy from the ocean at high temperature and heat export at the low temperatures of the upper troposphere.
Tropical Cyclone Forecast/Advisory:	Issued by the National Hurricane Center every six (6) hours, at 0500, 1100, 1700 & 2300 hours, or more frequently if human population is threatened. This information provides wind field information, direction and speed of the tropical cyclone.
Tropical Depression:	A tropical cyclone in which the maximum sustained surface wind speed (using the U.S. 1-minute average) is 33 kts (38 mph) or less.
Tropical Disturbance:	A discrete tropical weather system of apparently organized convection -- generally 100 to 300 nmi in diameter -- originating in the tropics or subtropics, having a non-frontal migratory character, and maintaining its identity for 24 hours or more. It may or may not be associated with a detectable perturbation of the wind field.

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Tropical Storm Force Winds:	A <u>tropical cyclone</u> in which the maximum sustained surface wind speed (<i>using the U.S. 1-minute average</i>) ranges from 34 kts (<i>39 mph</i>) to 63 kts (<i>73 mph</i>).
Tropical Storm Warning:	An announcement that tropical storm conditions (<i>sustained winds of 39 to 73 mph</i>) are expected somewhere within the specified coastal area within 36 hours .
Tropical Storm Watch:	An announcement that tropical storm conditions (<i>sustained winds of 39 to 73 mph</i>) are possible within the specified coastal area within 48 hours .
Tropical Wave:	A trough or cyclonic curvature maximum in the trade-wind easterlies. The wave may reach maximum amplitude in the lower middle troposphere.
UT:	Universal Time is the measure of time obtained from the rotation of the earth, at the Greenwich Observatory in England. The world's current time standard is Coordinated Universal Time, which is kept by atomic clocks.
Vulnerability Analysis:	Study that identifies those areas, populations and facilities that are vulnerable to specific hazards under a variety of hurricane threats.
Vulnerable Population:	Individuals residing within the evacuation zones subject to storm surge, and also residents of mobile homes.
WFO:	National Weather Service Forecast Office
Wind Swath:	The display of the National Hurricane Center projected swath of winds specific to each advisory.
ZULU Time:	Is a time reference used in the military and in navigation generally as a term for Universal or Greenwich Mean Time.